AMENDMENTS

IN THE SPECIFICATION:

Please replace the paragraph [0014] with the following amended paragraph

[0014] Recent, high profile examples ranging from geopolitical (e.g., forged documents purporting the solicitation of yellow-cake sales to Iraq) to the medical (e.g. the recent recall of approximately 100,000 bottles of potentially counterfeit ~~Lipitor~~ **LIPITOR® (Atorvastatin Calcium)** tablets) are indicative of the growing and increasingly complex risks associated with the counterfeiting of a wide range of documents and materials. Thus motivated, significant research has focused on the development of convenient-yet-unforgeable means of "authentifying" the provenance of documents, drugs and other materials related to medical, industrial, homeland or military security.

Please replace the paragraph [0072] with the following amended paragraph

[0072] In similar embodiments, oligonucleotide tags may be admixed in a solid, for example, a solid drug such as ~~Lipitor~~ **LIPITOR® (Atorvastatin Calcium)** powder, and thereafter dispersed in salt water and tested by the E-DNA sensor.

Please replace the paragraph [00102] with the following amended paragraph

[00102] Fig. 10 provides comparisons among the E-DNA signals before and after counterfeiting test in filter paper, ~~Lipitor~~ **LIPITOR® (Atorvastatin Calcium)** and ~~Neupogen~~ **NEUPOGEN® (Filgrastim)**.

Please replace the paragraph [00104] with the following amended paragraph

[00104] ~~Lipitor~~ **LIPITOR® (Atorvastatin Calcium)** tablets were selected as an example of orally ingested drugs and ~~Neupogen~~ **NEUPOGEN® (Filgrastim)** as an example of injectable drugs. ~~Lipitor~~ **LIPITOR® (Atorvastatin Calcium)** is a cholesterol lowering drug (Pfizer), while ~~Neupogen~~ **NEUPOGEN® (Filgrastim)** (Amgen) is a cancer-control drug that fights against Neutropenia, a disease characterized by a low white blood cell count.

Please replace the paragraph [00105] with the following amended paragraph

[00105] The ~~Lipitor~~ **LIPITOR® (Atorvastatin Calcium)** tablets were ground into powder and a droplet (approximately 1 µl) of DNA (20 ng oligo 2 with 200 mg masking DNA) was added to the powder. After drying in the air, the powder was dispersed in 50 ml salt water followed by filtering to obtain the supernatant. For the ~~Neupogen~~ **NEUPOGEN® (Filgrastim)** liquid, 1 ml ~~Neupogen~~ **NEUPOGEN® (Filgrastim)** was mixed with 1 µl DNA (20 ng oligo 2 with 200 mg masking DNA), and then diluted into a 50 ml solution; 2 ml of this solution was pipetted on the gold electrode surfaces. The control experiments were performed using only the masking DNA, in the absence of target DNA tag. As demonstrated in Fig. 10, we observed a significant decrease in the ACV signal after 30-min hybridization. In both cases, significantly smaller decreases of the corresponding signals were observed in the control experiments. The decreases in the control experiments possibly arise from the non-specific adsorption of some components of the drugs. It will be appreciated that one might wish to control the reaction time and the concentration of target DNA in order to obtain optimized results in actual sample detection. Nevertheless, due to the significant differences in response between the target DNA-containing experiments and the control experiments, we here demonstrated that it is possible to use the E-DNA sensor to read out the DNA information hidden in drugs.